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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/648,771

08/25/2003

Kimmo Hamynen

944-004.034

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12/06/2005

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EXAMINER

WON, MICHAEL YOUNG

ART UNIT

PAPER NUMBER

2155

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/648,771

Applicant(s)

HAMYNEN, KIMMO

Examiner

Michael Y. Won

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This action is in response to the Request for Continued Examination filed November 14, 2004.
2. Claims 1, 15, 23, and 36 have been amended.
3. Claims 1-41 have been examined and are pending with this action.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 5-7, 10-15, 17-23, 26-28, 30-31, 33-37, 39, and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Kagehiro et al. (US 2003/0044068 A1).

### **INDEPENDENT:**

As per **claim 1**, Kagehiro teaches a method of utilizing a written universal resource locator (URL) to communicate with the Internet, comprising the steps of:

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using a camera unit (see Fig. 1 and pg. 2, [0023]: *"a camera is applied as an image capture device"*) to acquire a raw visual light image that contains the written URL (see Fig. 1 and pg. 2, [0023]: *"the URL address and the character line image on the object as denoted by reference numeral 105 are captured"*),

converting the raw visual light image to an electronic image (see Fig. 1 & Fig. 2; pg. 2, [0023]: *"captured"*; and pg. 2, [0025]: *"the object captured by an image capture device is displayed on a content display denoted by the reference numeral 201"*),

locating glyphs of at least one particular standardized set of URL characters in an arbitrary scene of the electronic image (see Fig. 1 and pg. 2, [0023]: *"the character line embedded area extraction and the character line recognition are performed"*),

extracting an extractable URL from the electronic image after locating the glyphs which are at least partly from the group consisting of "http" and "www" (see Fig. 1 & Fig. 2; pg. 2, [0023]: *"the character line embedded area extraction and the character line recognition are performed"*; and pg. 2, [0025]: *"The character line rectangle extraction processing is performed on the URL character line located closest to the marker"*);

sending the extractable URL in a request signal to a web server in order to access an Internet site (see pg. 1, [0006]: *"a means for transmitting the recognition result via a network"* and pg. 2, [0023]: *"the data is transmitted through the wireless communication"*),

processing a reply from the web server (see Fig. 2; pg. 1, [0006]: *"means for receiving feedback via the network based on the recognition result"*; and pg. 2, [0025]:

*“the contents available at the URL corresponding to the recognition result are transmitted from the computer on a network to the mobile device”), and*

*presenting the Internet site (see Fig.2 and pg.2, [0025]: “the operator sees the contents on the display”).*

As per **claim 15**, Kagehiro teaches a system for utilizing a written universal resource locator (URL) to communicate with the Internet, comprising:

*a camera (see Fig.1 and pg.2, [0023]: “a camera is applied as an image capture device”), responsive to a raw visual light image containing the written URL (see Fig.1 and pg.2, [0023]: “the URL address and the character line image on the object as denoted by reference numeral 105 are captured”), for providing an electronic image signal indicative of the raw visual light image (see Fig.1 & Fig.2; pg.2, [0023]: “captured”; and pg.2, [0025]: “the object captured by an image capture device is displayed on a content display denoted by the reference numeral 201”);*

URL extraction means, responsive to the electronic image signal, for finding glyphs of at least one particular standardized set of URL characters in an arbitrary scene of the electronic image (see Fig.1 and pg.2, [0023]: “the character line embedded area extraction and the character line recognition are performed”), and also for providing a URL request signal indicative of an extractable URL that is extracted from the electronic image signal after finding the glyphs which are at least partly from the group consisting of “http” and “www” (see Fig.1 & Fig.2; pg.2, [0023]: “the character line embedded area extraction and the character line recognition are performed”; and pg.2,

[0025]: *"The character line rectangle extraction processing is performed on the URL character line located closest to the marker"*);

an Internet interface, responsive to the URL request signal, for providing a web site signal indicative of an Internet site accessed via the Internet (see Fig.2; pg.1, [0006]: *"means for receiving feedback via the network based on the recognition result"*; and pg.2, [0025]: *"the contents available at the URL corresponding to the recognition result are transmitted from the computer on a network to the mobile device"*); and

a display, responsive to the web site signal, for presenting the Internet site (see Fig.2 and pg.2, [0025]: *"the operator sees the contents on the display"*).

As per **claim 23**, Kagehiro teaches a mobile device for utilizing a written universal resource locator (URL) to communicate with the Internet, the mobile device comprising:

initiation means for sending an instruction (see pg.2, [0023]: *"The content panel is a touch panel, through which an operator can directly provide instructions"*) to obtain a raw visual light image (see Fig.1 and pg.2, [0023]: *"the URL address and the character line image on the object as denoted by reference numeral 105 are captured"*) which includes glyphs of at least one particular standardized set of URL characters in an arbitrary scene (see Fig.1 and pg.2, [0023]: *"the character line embedded area extraction and the character line recognition are performed"*),

a camera (see Fig.1 and pg.2, [0023]: *"a camera is applied as an image capture device"*), responsive to the instruction from the initiation means, for receiving the raw visual light image (see Fig.1 and pg.2, [0023]: *"the URL address and the character line*

*image on the object as denoted by reference numeral 105 are captured") and for providing an electronic image signal indicative of the raw visual light image (see Fig. 1 & Fig. 2; pg. 2, [0023]: "captured"; and pg. 2, [0025]: "the object captured by an image capture device is displayed on a content display denoted by the reference numeral 201");*

a display for presenting the web site, the display being responsive to a web site signal indicative of an Internet site (see Fig. 2 and pg. 2, [0025]: *"the operator sees the contents on the display"*) corresponding to an extractable URL that has been extracted from the raw visual light image after locating the glyphs which are at least partly from the group consisting of "http" and "www" (see Fig. 1 & Fig. 2; pg. 2, [0023]: *"the character line embedded area extraction and the character line recognition are performed"; and pg. 2, [0025]: "The character line rectangle extraction processing is performed on the URL character line located closest to the marker"*); and

an Internet interface, for providing the web site signal to the display after communicating with the Internet (see Fig. 2 and pg. 2, [0025]: *"the operator sees the contents on the display"*);

wherein the mobile device is for processing the electronic image signal provided by the camera, in order to obtain the web site signal from the Internet interface (see pg. 1, [0006] and pg. 2, [0023]).

As per **claim 36**, Kagehiro teaches a computer-readable medium, for use with a mobile device, encoded with a software data structure comprising:

a URL locator software module, for locating standardized URL glyphs in an electronic image (see *Fig. 1 and pg. 2, [0023]: "the character line embedded area extraction and the character line recognition are performed"*);

a scan and text recognition software module for extracting an extractable URL from an arbitrary scene of the electronic image after locating the glyphs which are at least partly from the group consisting of "http" and "www" (see *Fig. 1 & Fig. 2; pg. 2, [0023]: "the character line embedded area extraction and the character line recognition are performed"*; and *pg. 2, [0025]: "The character line rectangle extraction processing is performed on the URL character line located closest to the marker"*);

a browser-based user interface module (see *Fig. 2*), for allowing the user to decide whether to send the extractable URL to the Internet in order to immediately access a web site (see *pg. 2, [0025]: "the operator inputs a confirmation instruction... relevant information is retrieved"*), or alternatively bookmark the extractable URL.

**DEPENDENT:**

As per **claims 3 and 17**, Kagehiro further teaches wherein the camera is a video or still camera for capturing arbitrary scenes (see *Fig. 1 and Fig. 6*).

As per **claim 5**, Kagehiro further teaches wherein the step of extracting the URL is performed at least partly by a URL extraction means that receives the electronic image via a telecommunications network (see *pg. 3, [0032]: "other alternatives are conceivable..."*).



As per **claims 6, 21, and 30**, Kagehiro teaches of further comprising the step of manually amending the extractable URL if the extractable URL is different from the written URL (*implicit: see pg.2, [0023]: "The content display is a touch panel, through which an operator **can directly provide instructions**" and pg.4, [0041]: "inputting number "1""*).

As per **claim 7**, Kagehiro teaches of further comprising the steps of: selecting a portion of the electronic image containing the written URL, if the extractable URL is different from the written URL, extracting a more accurate URL from the portion of the electronic image (*see pg.2, [0029] and pg.4, [0041]*), sending the more accurate URL to a corresponding web server, processing a further reply from the corresponding web server, displaying a desired web site accessed via the corresponding web server in response to the more accurate URL (*see claim 1 rejection above*).

As per **claim 10**, Kagehiro teaches of further comprising the step of performing the extracting, sending, and processing steps again, if the reply indicated an invalid URL (*see pg.2, [0029]*).

As per **claim 11**, Kagehiro further teaches wherein the performing step is performed by a different computer having a greater capacity (*see pg.3, [0032]*).

As per **claim 12**, Kagehiro further teaches wherein the extracting step also yields at least one alternate URL that will be tried if the extractable URL turns out to be invalid (*see pg.2, [0029] and pg.4, [0041]*).

As per **claim 13**, Kagehiro further teaches wherein the step of selecting the portion of the electronic image is performed manually using stylus (*see pg.2, [0025]*:

*“the operator can select the recognition target character line with ease by operating the device, or shifting the marker” and pg.3, [0035]) or zoom functionality.*

As per **claim 14**, Kagehiro further teaches wherein the telecommunications network comprises the Internet (see pg.3, [0030]).

As per **claims 18 and 26**, Kagehiro further teaches wherein the at least one particular set of characters comprises the character string www, and wherein the certain character is the letter “o” (see Fig.2 and Fig.3).

As per **claim 19**, Kagehiro further teaches wherein the camera and the display are parts of a mobile device, and at least part of the URL extraction means is communicatively connected to the mobile device via a telecommunications network (see Fig.1, Fig.2, & Fig.4; and pg.2, [0023]).

As per **claim 20**, Kagehiro further teaches wherein the camera, at least part of the URL extraction means, the Internet interface, and the display are parts of at least one mobile device (see Fig.1, Fig.2, & Fig.4; and pg.2, [0023]).

As per **claim 22**, Kagehiro teaches of further comprising an image selection means, responsive to user input, for providing an image portion signal to the URL extraction means, the image portion signal being indicative of a portion of the electronic image where the written URL is depicted (see pg.2, [0028]).

As per **claim 27**, Kagehiro teaches of further comprising a URL extraction means that is responsive to the electronic image signal provided by the camera (see pg.2, [0023]), the URL extraction means being for finding the at least one particular set of glyphs, for processing the electronic image signal, and for providing a URL request

signal to the Internet interface (see pg.2, [0024]); wherein the internet interface is responsive to the URL request signal, and is for providing the web site signal after communicating with the internet (see *claim 1 rejection above*).

As per **claim 28**, Kagehiro further teaches wherein the Internet interface is responsive to the electronic image signal, and is for processing the electronic image signal by conveying the electronic image signal to an Internet extraction site (see pg.2, [0023]: *"the information related to the recognized contents on the network are searched, transmitted, and displayed"* and pg.2, [0024]: *"the contents available at the URL ... are transmitted from the computer to the mobile device"*).

As per **claim 31**, Kagehiro teaches of further comprising an image selection means, responsive to user input and responsive to the electronic image signal, for providing an image portion signal indicative of a portion of the electronic image where the written URL is depicted, and wherein the mobile device is for processing the image portion signal to obtain the web site signal from the Internet interface (see pg.1, [0006]-[0008]).

As per **claim 33**, Kagehiro further teaches wherein the image selection means includes a stylus for selecting the portion of the electronic image where the written URL is depicted (see pg.2, [0025]: *"the operator can select the recognition target character line with ease by operating the device, or shifting the marker"* and pg.3, [0035]).

As per **claim 34**, Kagehiro further teaches wherein the extractable URL is different from the written URL if the web site has not been found using the extractable URL (inherent).

As per **claim 35**, Kagehiro further teaches of a computer-readable medium or media, encoded with a data structure for performing the method of claim 1 (*see pg.2, [0027]*).

As per **claim 37**, Kagehiro further teaches wherein the URL locator software module is also for searching an electronic image to find glyphs of at least one particular set of characters (*see claim 35 rejection above and pg.2, [0023]: "the character line embedded area extraction and the character line recognition are performed"*).

As per **claim 39**, Kagehiro further teaches wherein the software data structure includes code for seeking URL extraction assistance from a user or from another computer if necessary (*see claim 35 rejection above and pg.3, [0032]*).

As per **claim 41**, Kagehiro further teaches wherein the URL extraction assistance includes the user manually correcting the extractable URL (*implicit: see pg.2, [0023]: "The content display is a touch panel, through which an operator **can directly provide instructions**" and pg.4, [0041]: "inputting number "1""*).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 4, 8, 16, 24, 25, 32, 38, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagehiro et al. (US 2003/0044068 A1) in view of Clark, P. et al. "Combining Statistical Measures to Find Image Text Regions", University of Bristol, Department of Computer Science, September 2000, pp.450-453.

As per **claims 2, 16, and 24**, Kagehiro does not explicitly teach of further comprising the steps of: approximating an angle between a plane of a glyph of a certain character and a plane perpendicular to a line of sight from the camera; and compensating for said angle before attempting extraction of remaining parts of the extractable URL.

Clark teaches a step of: approximating an angle between a plane of a glyph of a certain character and a plane perpendicular to a line of sight from the camera; and compensating for said angle before attempting extraction of remaining parts of the extractable URL (see *Fig. 1, 3, & 4; and pg.450, Abstract and Introduction: "align it correctly to obtain a fronto-parallel view"*).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Clark within the system of Kagehiro by implementing approximating an angle between a plane of a glyph of a certain character and a plane perpendicular to a line of sight from the camera within the method of utilizing a written universal resource locator (URL) to communicate with the Internet because Clarke teaches on pages 450-451, *Introduction: last paragraph*, "The advantage this facility gives these applications is that the resolution can be minimized" and Kagehiro teaches on page 1, section [0002], "the character recognition is performed

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using a low resolution image capture by the camera of the mobile device". Therefore, Clark would provide the "resolution enhancing processing" (see pg.2, [0029]) and "pixel complementing... to improve the recognition ration" (see pg.3, [0037]), taught by Kagehiro because Clark teaches that his system is employable in a system that minimizes resolution.

As per **claim 4**, Kagehiro further teaches wherein the at least one particular set of characters comprises the character string www, and wherein the certain character is the letter "o" (see *Fig.2 and Fig.3*).

As per **claim 8**, Kagehiro teaches of further including an initial step of instructing the camera unit to go to the Internet via the raw visual light image (see claim 1 rejection above). Although Kagehiro teaches of an extractable URL, he does not explicitly teach of including a zooming step before the extracting step so that the camera will automatically zoom in on the extractable URL and thus improve the electronic image.

Clark teaches of including a zooming step before the extracting step so that the camera will automatically zoom in and thus improve the electronic image (see pg.450, Introduction, 2<sup>nd</sup> column, last paragraph: "We have directed...").

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Clark within the system of Kagehiro by implementing including a zooming step before the extracting step so that the camera will automatically zoom in and thus improve the electronic image within the method of utilizing a written universal resource locator (URL) to communicate with the Internet

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because Clarke teaches in the same paragraph that such step overcomes the limitation of “when the text is too small to read”.

As per **claim 25**, Clark further teaches wherein the camera is a video or still camera for capturing arbitrary scenes, and wherein the camera comprises a zoom mechanism for automatically zooming in on the extractable URL to improve the electronic image signal (see claim 3 and 8 rejection above).

As per **claim 32**, Clark further teaches wherein the image selection means includes a zoom function (see claim 8 rejection above).

As per **claim 38**, Kagehiro further teaches wherein the scan and text recognition software module is also for finding a glyph of a certain character after locating the at least one particular set of characters (see Fig.8), however, he does not explicitly teach for using the glyph of the certain character to approximate an angle between a plane of said glyph of the certain character and a plane perpendicular to a line of sight from the camera, and compensating for said angle before attempting recognition of remaining parts of the extractable URL.

Clark teaches of using the glyph of the certain character to approximate an angle between a plane of said glyph of the certain character and a plane perpendicular to a line of sight from the camera, and compensating for said angle before attempting recognition of remaining parts of the extractable URL (see claim 2, 16, and 24 rejection above).

As per **claim 40**, Kagehiro further teaches wherein the URL extraction assistance is necessary (subjective) if the access to the web site has been unsuccessful one or two times (see claim 39 and 41 rejection above).

6. Claims 9 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagehiro et al. (US 2003/0044068 A1) in view of

As per **claim 9**, Although Kagehiro sending the request signal to the web server (see pg.1, [0006]: *"a means for transmitting the recognition result via a network"* and pg.2, [0023]: *"the data is transmitted through the wireless communication"*), Kagehiro does not explicitly teaches of further comprising the step of book marking the extractable URL by creating a bookmark, and sending the request when the bookmark is retrieved.

Smethers teaches creating a bookmark (see col.8, lines 27-30 and col.10, lines 5-7 & 26-28), and sending the request when the bookmark is retrieved (see col.8, lines 40-50).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teaching of Kagehiro within the system of Smethers by implementing creating bookmarks and sending requests via bookmarks within the method of utilizing a written universal resource locator (URL) to communicate with the Internet because Smethers teaches that such means improves transmission efficiency,



reduces user navigation, and amount of memory resources within a wireless device (see col.2, lines 37-44).

As per **claim 29**, Kagehiro and Smethers further teach wherein the initiation means gives the user an option to make a bookmark for the extractable URL, and wherein the mobile device is for obtaining the web site signal when the bookmark is retrieved (see claim 9 rejection above).

### ***Response to Arguments***

7. Applicant's arguments with respect to the reference Dymetman et al. (US 6,330,976 B1) have been considered but are moot in view of the new ground(s) of rejection. As a result of the amendment and after further searching, the examiner discovered a prior art that better teaches the claimed invention, namely Kagehiro et al. (US 2003/0044068 A1).

In response to the argument that because Clark is directed "to finding and recovering paragraphs and blocks of text rather than single words of lines" it would not have been obvious to combine, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.

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1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Clark teaches of a means to locate text apart from non-text wherein the picture taken is of low resolution and not perpendicular to the object (see pg.450-451, Introduction: last paragraph). Clark teaches that such means direct higher level processing steps more efficiently such as "character recognition" taught by Kagehiro.

### ***Conclusion***

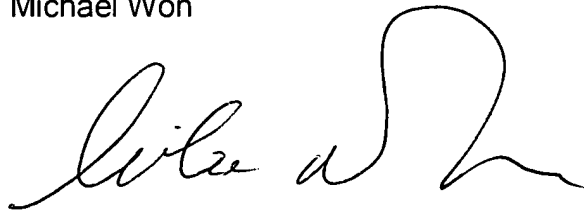
8. For the reason above claims 1-41 is rejected.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y. Won whose telephone number is 571-272-3993. The examiner can normally be reached on M-Th: 7AM-5PM.

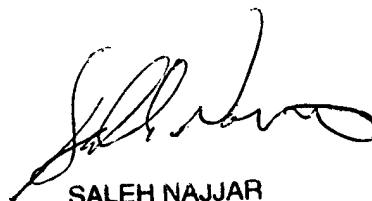
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Won



November 30, 2005



SALEH NAJJAR  
SUPERVISORY PATENT EXAMINER